ORIGINAL

RECEIVED

SEP 2 5 1996

Federal Communications Commission
Office of Secretary

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Revision of the Commission's	)	CC Docket No. 94-102
Rules To Ensure Compatibility	)	
With Enhanced 911 Emergency	)	
Calling Systems	)	

DOCKET FILE COPY ORIGINAL

COMMENTS OF
THE PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION

R. Michael Senkowski
Eric W. DeSilva
Stephen J. Rosen
WILEY, REIN & FIELDING
1776 K Street, N.W.
Washington, DC 20006
(202) 429-7000

Mark J. Golden
Vice President of Industry Affairs
PERSONAL COMMUNICATIONS
INDUSTRY ASSOCIATION
500 Montgomery Street
Suite 700
Alexandria, VA 22314-1561
(703) 739-0300

September 25, 1996

No. of Copies rec'd 044
List ABCDE

TABLE OF CONTENTS

RECEIVED

SEP 2 5 1996

Federal Communications Commission
Office of Secretary

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Revision of the Commission's	)	CC Docket No. 94-102
Rules To Ensure Compatibility	)	
With Enhanced 911 Emergency	)	
Calling Systems	)	

COMMENTS OF
THE PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION

The Personal Communications Industry Association ("PCIA"),[1] by its attorneys, respectfully submits its comments regarding the Commission's Further Notice of Proposed Rulemaking in the above-captioned proceeding regarding compatibility between wireless services and E911 systems.[2] PCIA respectfully requests that the Commission modify its proposals to make them consistent with the technological and economic conditions currently prevailing in the wireless marketplace.

---

[1] PCIA is the international trade association created to represent the interests of both the commercial and the private mobile radio service communications industries. PCIA's Federation of Councils includes: the Paging and Narrowband PCS Alliance, the Broadband PCS Alliance, the Specialized Mobile Radio Alliance, the Site Owners and Managers Association, the Association of Wireless System Integrators, the Association of Communications Technicians, and the Private System Users Alliance. In addition, as the FCC-appointed frequency coordinator for the 450-512 MHz bands in the Business Radio Service, the 800 and 900 MHz Business Pools, the 800 MHz General Category frequencies for Business Eligibles and conventional SMR systems, and the 929 MHz paging frequencies, PCIA represents and serves the interests of tens of thousands of licensees.

[2] FCC 96-264 (released July 26, 1996) ("*Further Notice*").

I. INTRODUCTION AND SUMMARY

In the *Further Notice*, the Commission sought comment on a number of issues relating to whether the requirements adopted in the *Report and Order* issued in this proceeding can be expanded. Specifically, the Commission requested input on the following issues. First, it proposed that carriers provide public safety answering points ("PSAPs") with automatic location information ("ALI") accurate to a 40 foot radius, using latitude, longitude, and vertical location data, for 90 percent of the 911 calls processed.[3] Second, it queried whether a minimum latency period should be established for the delivery of location information to PSAPs and whether such information should be updated throughout the duration of the 911 call.[4] Third, the Commission asked "what types of monitoring mechanisms" should be adopted in order to ensure that carriers are deploying "state of the art" technology.[5] Fourth, the FCC requested comment on how consumers could be educated as to the limitations of wireless E911 service.[6] Finally, comment was sought on the technical feasibility of mandating access to 911 service by way of multiple mobile systems, including those deploying different air interfaces.[7]

---

[3] *Further Notice*, ¶ 138.

[4] *Id.*, ¶ 142.

[5] *Id.*, ¶ 143.

[6] *Id.*, ¶ 150.

[7] *Id.*, ¶¶ 144-148.

In response to these queries, PCIA requests that the Commission modify its proposals as follows:

- It is premature to implement wireless ALI that is accurate to a 40 foot sphere in 90 percent of all cases because the state of technology is unlikely to support it, it is unclear whether states will be able to fund such a service immediately after funding the 125 meter ALI standard, and it will put wireless carriers at a competitive disadvantage versus wireline carriers. Thus, PSAPs, after analyzing the data from the original standard, should be permitted to request more accurate location information if they feel it is important to their mission. Once PSAPs have requested more accurate information, the Commission should independently analyze the PSAPs' need for this information and determine whether the costs of supplying more accurate ALI outweigh its benefits.

- It is not clear that is economically practical, technically feasible, or useful to implement a feature that updates a wireless caller's location. However, if the FCC does go forward with this proposal, PSAPs -- as end users of location information -- should determine whether and when they want this information updated.

- While the telecommunications industry is committed to improving public safety, PSAPs, not carriers, are the end users of information provided by carriers. Therefore, PSAPs should be the entities required to monitor the state of the industry regarding implementation of wireless E911 and to participate in educating consumers about the limitations of wireless E911.

- Wireless networks will be more built out in the future, thereby obviating the need to require cellular handsets to route 911 calls to the system with the strongest control channel. However, the Commission's proposal to require the cross service provision of wireless E911 is incompatible with its commendable decision to allow the market to set technical standards for broadband PCS and digital cellular service.

II. IT IS PREMATURE TO REQUIRE WIRELESS ALI THAT IS ACCURATE TO A 40 FOOT SPHERE IN 90 PERCENT OF ALL CASES

The Commission proposes that within five years, covered carriers will be required to provide PSAPs with information that locates a mobile caller within a 40 foot sphere, using longitude, latitude, and vertical location data, for 90 percent of all 911 calls processed.[8] This proposed requirement should not be implemented because it is technologically premature, inordinately expensive, and puts wireless providers at a competitive disadvantage. Rather, after data has been gathered and analyzed from the implementation of the *Report and Order*'s 125 meter two-dimensional ALI requirement, the Commission should allow PSAPs to request the degree of ALI precision that best suits their needs. The Commission should then determine whether these capabilities are absolutely necessary to the PSAPs' mission, and determine whether the benefits of implementing this degree of ALI precision outweigh its costs.

Technologically, there is considerable controversy as to whether the 125 meter two dimensional requirement can be achieved within five years.[9] For example, in its Petition For Reconsideration, BellSouth pointed out that based on its actual experience in attempting to procure location information systems, the FCC's five year deadline for completing its ALI requirements is unrealistic and should be eliminated.[10] Similarly,

---

[8] *Id.*, ¶ 138.

[9] *Report and Order*, ¶¶ 68, 71.

[10] BellSouth Petition For Reconsideration in CC Docket 94-102 (filed Sept. 3, 1996) at 10-12.

in its Petition For Reconsideration, Nokia Telecommunications, Inc. stated that because no extant ALI system has been sufficiently field tested, the 125 meter requirement is premature.[11]

Given the industry's lack of confidence that it can implement the requirements of the *Report and Order* within five years, it is too early to consider the imposition of a more stringent, three-dimensional ALI requirement. Rather, the FCC should wait until the two-dimensional requirement is implemented, and data is available regarding the efficacy of the location technologies developed to meet this requirement. The decision to move to an advanced location system should be driven by a demonstrable need over two-dimensional systems and the ability and willingness of the PSAPs to pay for the upgrades.

Caution is also warranted because by adding a third dimension, the Commission has greatly increased the complexity of the technological problem facing carriers. For example, the implementation of three dimensional ALI will inevitably require the modification of handsets. Further, the most commercially available, off the shelf three-dimensional location technology -- global positioning system ("GPS") -- because of the need to "see" multiple satellites, will not work in buildings, or even in most urban, high rise outdoor applications. These limitations will require the implementation of a new, as yet commercially unavailable technology for in-building use.

---

[11] Nokia Telecommunications Inc. Petition For Reconsideration in CC Docket 94-102 (filed Sept. 3, 1996) at 3-4.

Cost might also prove to be a significant barrier to the implementation of the Commission's proposal. Although it is far too early to estimate the precise costs of implementing a system that produces three-dimensional data accurate to a 40 foot sphere, such a system will be quite expensive. Three-dimensional implementation is especially problematic, given that it is extremely unlikely that any two-dimensional, network based ALI technology can be successfully modified to produce three-dimensional information. Thus, the costs of implementing the ALI requirements of the *Further Notice* will be *in addition to* the costs of implementing the requirements of the *Report and Order*. Given that these new requirements follow closely behind the old requirements, it is quite possible that state and local governments will be unwilling to pass the necessary legislation to fund -- in their view -- "yet another" wireless E911 mandate.

Further, the price tag of the Commission's latest wireless ALI proposal might well place wireless providers at a competitive disadvantage with respect to wireline providers. Because of the complexity, and therefore the high cost, of giving the same degree of location reliability for wireless as is available from wireline systems, the public safety industry might have to assess wireless customers five to ten times the typical wireline "911" surcharge or tax. This will certainly put the CMRS provider at a competitive disadvantage. Further, requiring wireless customers to pay for E911 service that -- at least in the case of the ever more popular cordless phones -- is more capable than landline E911 service discriminates against CMRS providers. Such

regulatory interference in the marketplace is inconsistent with the pro-competitive, deregulatory mandate of the 1996 Act. Finally, placing wireless carriers at such a disadvantage is at odds with the Commission's stated policy of encouraging the development of fixed wireless services.[12]

The aforementioned arguments emphasize that there are many costs inherent in implementing the Commission's latest wireless ALI proposal. Further, it is possible that the 125 meter two-dimensional caller location information will be sufficient to meet the PSAPs' needs in most instances. PCIA believes that the data concerning the cost and effectiveness of the 125 meter ALI standard will greatly assist PSAPs in undertaking this analysis. Therefore, the Commission should delay action on its 40 foot three-dimensional proposal at least until PSAPs can analyze the data from the 125 meter two-dimensional requirement. At that point, PSAPs can request more accurate location information if they feel that it will further their public safety mission and they have the ability and willingness to fund the new system.

After a PSAP has requested a certain degree of ALI accuracy, the Commission should undertake a two-part analysis before requiring carriers to honor the request. First, the Commission should carry out an independent analysis of whether the requested degree of accuracy is necessary to the PSAP's mission. Second, the

---

[12] *See, Amendment of the Commission's Rules To Permit Flexible Service Offerings in the Commercial Mobile Radio Service*, First Report and Order, WT Docket 96-6, ¶ 1 (Aug. 1, 1996) ("Allowing service providers to offer all types of fixed, mobile, and hybrid services will allow CMRS providers to better respond to market demand and increase competition in the provision of telecommunications services").

Commission should determine whether the costs of implementing this more accurate ALI request outweigh its benefits. Such a cost-benefit analysis is essential, because at some point the increasingly expensive marginal costs of greater degrees of ALI accuracy no longer appreciably increase the safety of wireless callers.[13] FCC monitoring will ensure that carriers are not required to implement requests for this degree of ALI accuracy.

III. ASSUMING THAT IT IS ECONOMICALLY AND TECHNICALLY FEASIBLE, AND USEFUL TO UPDATE LOCATION INFORMATION, SUCH UPDATES SHOULD ONLY BE PROVIDED UPON PSAP REQUEST

The FCC seeks comment on whether updating location information throughout the duration of a wireless 911 call is "technically feasible and useful."[14] It is unclear whether such an ALI update feature is technically feasible, given that some location technologies only provide the caller's location when setting up a call. In addition, the Commission should take the economic impact -- as well as the technical feasibility and utility -- of location updates into account before mandating the implementation of such a feature.

However, even if the implementation of a location update feature is economically and technically feasible, location updates may be of limited utility because

---

[13] If and when such a threshold is reached, other forms of public investment -- such as additional ambulances and police officers -- may more efficiently serve the public interest.

[14] *Further Notice*, ¶ 142.

most wireless 911 calls are made by passers by to an incident, while many other wireless calls are made by people involved in a traffic accident or another stationary incident. The former category is mobile and does not require assistance, and the latter category of caller is stationary. Thus, PSAPs will not be assisted by getting location updates from either class of caller.

Finally, if the Commission does determine that it is economically feasible, technically possible, and useful to mandate a location update feature, wireless carriers should not be required to provide PSAPs with this information except upon PSAP request. Such a caveat will prevent wireless carriers from expending the resources required to implement a feature that PSAPs, as its end users, would not use in most instances.

IV. INDUSTRY MONITORING AND CONSUMER EDUCATION SHOULD BE UNDERTAKEN BY PSAPS RATHER THAN CARRIERS

The Commission further requested comment on what types of monitoring mechanisms it should implement to ensure that wireless carriers are "developing and deploying state of the art technology."[15] From the beginning of this proceeding, PCIA has advocated a greater degree of industry cooperation and coordination in developing common technical standards and data protocols for the implementation of wireless E911.[16] Such coordination and standards setting is necessary in order to

---

[15] *Id.*, ¶ 143.

[16] *See, e.g.* Opening Comments of PCIA at 2-5.

ensure that caller number and location information is successfully passed from the wireless carrier to the LEC to the PSAP. Therefore, PCIA endorses any FCC proposal that makes it easier for all of these entities to work together.

However, in the particular case of industry monitoring, PCIA believes that PSAPs, not carriers, are the entities best suited to undertake this function. As mentioned above, PSAPs are the end users of call back and location information and the providers of service to the public. Therefore, they are familiar with the quality and nature of the data that best suits their needs. Further, PSAPs have a broader knowledge of which entity is installing what sort of technology, whether the entity in question is a covered carrier, a LEC or a PSAP. Thus, PSAPs have the expertise to perform this monitoring function with the least additional expenditure of resources.

Comment is also sought on how "users can be informed or made aware that not all wireless 911 calls can be processed by carriers and delivered to PSAPs for monitoring and response."[17] PCIA favors consumer education as a method of informing the public about the limitations of wireless E911. In particular, wireless callers should be taught that it is always the best policy to inform the 911 operator of where they are located. Such user input is vital in areas where PSAPs have not implemented wireless ALI, and can speed emergency response even where the Commission's 125 meter standard has been implemented, given that the rules do not require this standard to be met for every call.

---

[17] *Further Notice*, ¶ 150.

Further, because of the PSAP-by-PSAP differences in the quality of wireless E911 service, PSAPs, not wireless carriers should be responsible for participating in this education program. PSAP-initiated education also has a better chance of reaching non-service initialized users, who cannot be contacted through billing inserts. Finally, PCIA opposes the use of equipment labelling as a means of consumer education. Such labels will become obsolete as PSAP and network capabilities change, and will then merely serve to confuse customers.

V. WHILE WIRELESS SYSTEMS WILL BE MORE BUILT OUT IN THE FUTURE, THE CROSS SERVICE PROVISION OF WIRELESS E911 IS FUNDAMENTALLY AT ODDS WITH THE COMMISSION'S DECISION NOT TO MANDATE A SINGLE AIR INTERFACE FOR NEW BROADBAND SERVICES

In requesting comment on access to 911 service by way of multiple mobile systems, the Commission seeks comment on two general issues. First, because the service areas of all wireless carriers contain "blank spots," the Commission asks whether cellular handsets should be programmed to send 911 calls to the cellular carrier with the strongest control channel signal.[18] Second, and of a more broad import, the Commission asks whether 911 calls should be handled by "whatever wireless system is available in the area of need and, if there are multiple systems available, by the one that will provide the quickest and most reliable and accurate response."[19]

---

[18] *Id.*, ¶ 145.

[19] *Id.*, ¶ 114.

Regarding the proposal to require cellular handsets to send 911 calls to the system with the strongest control channel, in its response to the Ad Hoc Alliance's Petition, PCIA pointed out the following technical flaws with this proposal. First, as cellular carriers deploy digital technologies, they will no longer use common air interfaces. Therefore, it may be impossible for one carrier to process another carrier's 911 call. Second, in a mobile environment, the strongest signal may well be transitory, thereby defeating the purpose of seeking out this signal. Finally, the carrier with the strongest control channel signal at a given location does not necessarily have the strongest voice channel signal at that location.[20]

Moreover, because the problem of gaps in wireless coverage areas is rapidly becoming less severe, implementing the Commission's proposal is no longer necessary. Wireless systems, by their nature, will never be able to provide 100 percent coverage. However, as competition increases, CMRS carriers are increasingly pressed to build-out their systems to the greatest extent possible, thereby eliminating these "dead spots" whenever technically feasible. Thus, competition, rather than regulation, should provide a solution to the problem of gaps in coverage for 911 and all other types of wireless calls.

Finally, the Commission's proposal to require the provision of 911 service across different air interfaces is fundamentally at odds with its decision "not to establish

---

[20] PCIA Comments in response to Ad Hoc Alliance For Public Access To 911's Petition For Rulemaking (filed Dec. 15, 1995) at 6-7.

a technical air interface for broadband PCS [or to establish] technical standards for digital cellular service."[21] If the Commission intends to adhere to its wise decision to let the marketplace "determine which digital protocols will survive,"[22] there will inevitably be incompatibilities between many of the air interfaces put on the market.

Given such incompatibilities, the provision of E911 service across different air interfaces is unlikely without major advances in the development of multimode handsets. PCIA does not rule out such advances in the future. However, at present, such handsets are unavailable, and even if they were, they would be prohibitively large and heavy due to the increase in power requirements and battery size required to scan many different air interfaces.

VI. CONCLUSION

The Commission should not add to the wireless ALI requirements that it has set forth in its *Report and Order* until the state of location technology has advanced, funding mechanisms are in place, and efficacy data has been gleaned from the original ALI requirements. At that point, PSAPs should be permitted to determine whether more stringent ALI standards are necessary. If PSAPs request more accurate ALI, the Commission should determine whether this more accurate information is necessary to the PSAPs' mission, and subject the request to a cost-benefit analysis. PSAPs should also be made responsible for the following functions: (1) choosing whether or not to

---

[21] *Further Notice*, ¶ 147.

[22] *Id.*

receive caller location updates; (2) undertaking industry monitoring to determine which location technologies are being deployed by whom and whether such location technologies are state of the art; and (3) educating consumers about the limitations of wireless E911. Finally, the Commission should not require wireless carriers to provide 911 service across different air interfaces.

Respectfully submitted,

PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION

By: _____

R. Michael Senkowski
Eric W. DeSilva
Stephen J. Rosen
WILEY, REIN & FIELDING
1776 K Street, N.W.
Washington, DC 20006
(202) 429-7000

By: _____

Mark J. Golden
Vice President of Industry Affairs
PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION
500 Montgomery Street
Suite 700
Alexandria, VA 22314-1561
(703) 739-0300

September 25, 1996